

## WHAT IS CLAIMED IS:

1. An automated article dispensing device for dispensing articles to a plurality of users, the device comprising:

- (a) at least one storage compartment configured for storage of a vertical stack of cloth articles;
- (b) a plurality of cloth articles deployed in said storage compartment in a vertical stack configuration;
- (c) at least one dispensing outlet;
- (d) at least one article delivery system configured to retrieve a top-most article from said stack and deliver said article to said dispensing outlet, said article delivery system primarily deployed behind said storage compartment;
- (e) a user interface unit accessible to the users;
- (f) an on-board processing unit configured to control said article delivery system, said on-board processing unit being in electrical communication with said article delivery system, and said user interface unit; and
- (g) a user credit tracking system for tracking a number of said articles a user is currently authorized to have dispensed, such that on receipt of a request to dispense an article request entered by a user via the user interface; and conditional at least upon the user having a current credit of at least one, the article delivery system is actuated to deliver a requested article to said dispensing outlet and the current credit of the user is decreased by one.

2. The device of claim 1, wherein said article delivery system includes a vacuum article retrieval system configured for temporary attachment to said top-most article in said stack via suction.

3. The device of claim 2, wherein said cloth articles are wrapped in a suction-resistant wrapper.

4. The device of claim 3, wherein at least one wire configured to supply electricity to at least one of the components of said article delivery system is deployed in association with at least one vacuum hose of said vacuum article retrieval system.

5. The device of claim 1, wherein said article delivery system includes an article contact sensor.

6. The device of claim 1, wherein said article delivery system includes at least one vertical track upon which said vacuum article retrieval system is displaced.

7. The device of claim 1, wherein said article delivery system includes a home-station indicator.

8. The device of claim 1, wherein said user credit tracking system includes a user database.

9. The device of claim 1, wherein said on-board processor is configured to initiate a first interactive communication with the user, using said user interface unit, when the current credit of the user is insufficient to allow fulfilling of a request to dispense an article.

10. The device of claim 1, wherein said user interface includes a user identification mechanism.

11. The device of claim 1, wherein said user interface includes a device for at least reading at least one chosen from a list including: cards with magnetic strips, bar-codes, and smartcards.

12. The device of claim 1, wherein said on-board processor is configured to monitor a preset number of system transactions authorized for each user.

13. The device of claim 1, wherein said article, said storage compartment, and said stack are implemented as a plurality of articles, a plurality of storage compartments, and a plurality of stacks, said plurality of stacks including a variety of said articles.

14. The device of claim 13, wherein said storage compartments are arranged in a plurality of tiers.

15. The device of claim 14, wherein said article delivery system includes a plurality of article retrieval systems equal in number to the number of tiers of storage compartments.

16. The device of claim 1, wherein said article delivery system includes at least one storage compartment indicator configured so as to indicate to said article delivery system the location of at least one said storage compartment.

17. The device of claim 1, wherein said storage compartment includes a displaceable floor configured to elevate said stack such that said top-most article is deployed substantially at a predetermined height within said storage compartment.

18. The device of claim 1, wherein the device is configured as part of an article dispensing system having a remote central processing unit in at least data communication with at least one of the devices, thereby forming an overall system of such devices.

19. An automated article return device for the return of articles dispensed to a plurality of users, the return device comprising:

- (a) a return cabinet configured to receive a returned article;
- (b) a plurality of sensors for sensing configured to verify at least: (i) closure of an article return door; (ii) transfer of an article into a return depository; and (iii) that a returned article is a system article; and
- (c) a user credit tracking system configured to record an article return transaction.

20. The return device of claim 19, wherein said user credit tracking system is configured such that upon return of an article to the article return device, the current credit of the user is increased by one.

21. An interactive automated article dispensing system for dispensing articles to a plurality of users, the system comprising:

- (a) at least one dispensing device including:
  - (i) at least one storage compartment configured for storage of a vertical stack of cloth articles;

- (ii) a plurality of cloth articles deployed in said storage compartment in a vertical stack configuration;
  - (iii) at least one dispensing outlet;
  - (iv) at least one article delivery system configured to retrieve a top-most article from said stack and deliver said article to said dispensing outlet, said article delivery system primarily deployed behind said storage compartment;
  - (v) a user interface unit accessible to the users; and
  - (vi) an on-board processing unit configured to control said dispensing mechanism, said on-board processing unit being in electrical communication with said dispensing mechanism, and said user interface unit;
- (b) an article return device;
- (c) a user credit tracking system for tracking a number of said articles a user is currently authorized to have dispensed, such that on receipt of a request to dispense an article entered by a user via the user interface, and conditional at least upon the user having a current credit of at least one, the article delivery system is actuated to deliver a requested article to said dispensing outlet and the current credit of the user is decreased by one, and on return of an article to the article return system, the current credit of the user is increased by one.

22. The system of claim 21, wherein said article delivery system includes a vacuum article retrieval system configured for temporary attachment to said top-most article in said stack via suction.

23. The system of claim 22, wherein said cloth articles are wrapped in a suction-resistant wrapper.

24. The system of claim 21, wherein said user credit tracking system includes a user database.

25. The system of claim 21, wherein said on-board processor is configured to initiate a first interactive communication with the user, using said user interface unit, when the current credit of the user is insufficient to allow fulfilling of a request to dispense an article.

26. The system of claim 25, wherein said user interface includes a user identification mechanism.

27. The system of claim 26, wherein said user interface includes a device for at least reading at least one chosen from a list including: cards with magnetic strips, bar-codes, and smartcards.

28. The system of claim 21, wherein said on-board processor is configured to monitor a preset number of system transactions authorized for each user.

29. The system of claim 21, wherein said article, said storage compartment, and said stack are implemented as a plurality of articles, a plurality of storage compartments, and a plurality of stacks, said plurality of stacks including a variety of said articles.

30. The system of claim 29, wherein said storage compartments are arranged in a plurality of tiers.

31. The system of claim 30, wherein said article delivery system includes a plurality of vacuum article retrieval systems equal in number to the number of tiers of storage compartments.

32. The system of claim 21, wherein said on-board processor is configured to initiate a second interactive communication with the user, using said user interface unit, to attempt a first optional fulfillment solution when said database indicates that said requested article is unavailable for dispensing.

33. The system of claim 21, further including a remote central processing unit in at least data communication with at least one said dispensing device, thereby forming an overall system of said dispensing device, said central processing unit configured to at least maintain a

database of said articles in said overall system and a location of deployment of each of said articles within said overall system.

34. The system of claim 33, further including a plurality of said dispensing device, each having a said on-board processing unit in at least data communication with said remote central processing unit.

35. The system of claim 34, wherein said on-board processor is configured to initiate a third interactive communication with the user, using said user interface unit, to attempt a second optional fulfillment solution when said database indicates that said requested article is unavailable for dispensing, a present dispensing device and said on-board processor is configured to indicate a location of an alternative dispensing device within said overall system at which that said requested article is available for dispensing.

36. The system of claim 21, further including an article return system configured to receive a returned article and record an article return transaction.

37. The system of claim 36, wherein said user credit tracking system is further configured such that on return of an article to the article return system, the current credit of the user is increased by one.

38. An interactive automated article dispensing method for dispensing articles to a plurality of users, the method comprising:

- (a) providing at least one dispensing device including:
  - (i) at least one storage compartment configured for storage of a vertical stack of cloth articles;
  - (ii) a plurality of cloth articles deployed in said storage compartment in a vertical stack configuration;
  - (iii) at least one dispensing outlet;
  - (iv) at least one article delivery system configured to retrieve a top-most article from said stack and deliver said article to said dispensing outlet, said article delivery system primarily deployed behind said storage compartment;

- (v) a user interface unit accessible to the users; and
  - (vi) an on-board processing unit configured to control said dispensing mechanism, said on-board processing unit being in electrical communication with said dispensing mechanism, and said user interface unit;
- (b) providing an article return device;
  - (c) tracking of user credit by a user credit tracking system for tracking a number of said articles a user is currently authorized to have dispensed;
  - (d) on receipt of a request to dispense an article entered by a user via the user interface, actuating said article delivery system is actuated to deliver a requested article to said dispensing outlet and the current credit of the user is decreased by one, conditional at least upon the user having a current credit of at least one; and
  - (e) on return of an article to the article return system, the current credit of the user is increased by one.

39. The method of claim 38, wherein said article delivery system includes a vacuum article retrieval system configured for temporary attachment to said top-most article in said stack via suction.

40. The method of claim 39, wherein said cloth articles are wrapped in a suction-resistant wrapper.

41. The method of claim 38, wherein said user credit tracking system is implemented with a user database.

42. The method of claim 38, wherein said on-board processor is implemented so as to initiate a first interactive communication with the user, using said user interface unit, when the current credit of the user is insufficient to allow fulfilling of a request to dispense an article.

43. The method of claim 38, wherein said user interface is implemented with a user identification mechanism.

44. The method of claim 38, wherein said user interface is implemented with a device for at least reading at least one chosen from a list including: cards with magnetic strips, bar-codes, and smartcards.

45. The method of claim 38, wherein said on-board processor is implemented so as to monitor a preset number of system transactions authorized for each user.

46. The method of claim 38, wherein said article, said storage compartment, and said stack are implemented as a plurality of articles, a plurality of storage compartments, and a plurality of stacks, said plurality of stacks including a variety of said articles.

47. The method of claim 46, wherein said storage compartments are implemented so as to be arranged in a plurality of tiers.

48. The method of claim 47, wherein said article delivery system is implemented with a plurality of vacuum article retrieval systems equal in number to the number of tiers of storage compartments.

49. The method of claim 38, wherein said on-board processor is implemented so as to initiate a second interactive communication with the user, using said user interface unit, to attempt a first optional fulfillment solution when said database indicates that said requested article is unavailable for dispensing.

50. The method of claim 49, further including establishing data communication between a remote central processing unit and at least one said dispensing device, thereby forming an overall system of said dispensing device, said central processing unit configured to at least maintain a database of said articles in said overall system and a location of deployment of each of said articles within said overall system.

51. The method of claim 50, further including establishing data communication between a plurality of said dispensing device, each having a said on-board processing unit and said remote central processing unit.



52. The method of claim 51, wherein said on-board processor is implemented so as to initiate a third interactive communication with the user, using said user interface unit, to attempt a second optional fulfillment solution when said database indicates that said requested article is unavailable for dispensing, a present dispensing device and said on-board processor is configured to indicate a location of an alternative dispensing device within said overall system at which that said requested article is available for dispensing.

53. The method of claim 38, wherein an article return system is implemented so as to receive a returned article and record an article return transaction.

54. The method of claim 53, wherein said user credit tracking system is implemented such that on return of an article to the article return system, the current credit of the user is increased by one.